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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/733,404

12/12/2003

Yoshinori Machida

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7590

11/24/2004

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EXAMINER

THOMAS, BRANDI N

ART UNIT

PAPER NUMBER

2873

DATE MAILED: 11/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,404

Applicant(s)

MACHIDA ET AL.

Examiner

Brandi N Thomas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/10/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Detailed Action.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. Acknowledgement is made of receipt of Information Disclosure Statement(s) (PTO-1449) filed 2/10/04. An initialed copy is attached to this Office Action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Sakamaki et al. (US 2002/0113871 A1).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C.

102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the

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inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 10, Sakamaki et al. discloses, in figures 3A and 3B, an image display medium (12) comprising: a display plate (121) including light transmissivity (section 0217); a rear face plate (122) which is disposed to oppose the display plate (121) (section 0217), a colored dispersion fluid (DL) which is disposed between the plates (121 and 122), and at least two kinds of colored particles (BP and WP), which are contained in the dispersion fluid (DL), can move in accordance with an electric field formed between the plates (121 and 122) (section 0218), and include different electrostatic characteristics and optical characteristics from one another (sections 0163, 0185, and 0281).

Regarding claim 11, Sakamaki et al. discloses, in figures 3A and 3B, an image display medium (12), further comprising a plurality of cells (124) formed between the plates (121 and 122), wherein the dispersion fluid (DL) containing the colored particles (BP and WP) is enclosed in the cells (124) in predetermined amounts (section 0218).

Regarding claim 12, Sakamaki et al. discloses, in figures 3A and 3B, an image display medium (12), further comprising a plurality of electrodes for forming the electric field, which are disposed at least one of the display plate (121) and the rear face plate (122) (section 0187 and 0195).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamaki et al. (US 2002/0113871 A1) in view of Murata et al. (4536428).

Regarding claim 1, Sakamaki et al. discloses, in figures 3A and 3B, an image display medium (12) comprising: a display plate (121) including light transmissivity (section 0217); a rear face plate (122) which is disposed to oppose the display plate (121) (section 0217), a substantially transparent dispersion fluid (DL) which is disposed between the plates (121 and 122), and at least two kinds of colored particles (BP and WP), which are contained in the dispersion fluid (DL), can move in accordance with an electric field formed between the plates (121 and 122) (section 0218), and include different electrostatic characteristics and optical characteristics from one another (sections 0163, 0185, and 0281) except that it does not show a colored rear plate. Murata et al. shows that it is known to provide a colored rear plate for a high contrast between the substrate and magnetic particles and a sharp display (col. 4, lines 49-57). Therefore it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the device of Sakamaki et al. with the colored rear plate of Murata et al. for the purpose of providing a high contrast between the substrate and magnetic particles and a sharp display (col. 4, lines 49-57).

Regarding claim 2, Sakamaki et al. discloses, in figures 3A and 3B, an image display medium (12), further comprising a plurality of cells (124) formed between the plates (121 and 122), wherein the dispersion fluid (DL) containing the colored particles (BP and WP) is enclosed in the cells (124) in predetermined amounts (section 0218).

Regarding claim 3, Sakamaki et al. discloses, in figures 3A and 3B, an image display medium (12), further comprising a plurality of electrodes for forming the electric field, which are disposed at least one of the display plate (121) and the rear face plate (122) (section 0187 and 0195).

Regarding claim 4, Sakamaki et al. discloses, in figure 5, an image display medium (12), further comprising a plurality of capsules (163) disposed between the plates (161 and 162), wherein the dispersion fluid containing the colored particles (164) is enclosed in the capsules (163) in predetermined amounts (sections 0178 and 0268).

Regarding claims 5 and 6, Murata et al. discloses an image display medium, wherein the rear face plate comprises a layer which is colored (col. 4, lines 49-57) but does not specifically disclose that the rear plate comprising a layer which is colored each of red, green, blue, cyan, magenta, and yellow. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the colors of red, green, and blue for the purpose of these colors being primary colors in which they are capable of mixing together to make other colors.

Regarding claim 7, Sakamaki et al. discloses, in figures 3A and 3B, an image display medium (12) comprising: a display plate (121) including light transmissivity (section 0217); a rear face plate (122) which is disposed to oppose the display plate (121) (section 0217), a first dispersion fluid (DL) which is disposed between the plates (121 and 122), and at least two kinds of colored particles (BP and WP), which are contained in the dispersion fluid (DL), can move in accordance with an electric field formed between the plates (121 and 122) (section 0218), and include different electrostatic characteristics and optical characteristics from one another (sections 0163, 0185, and 0281) except that it does not show an intermediate plate. Murata et al.

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shows that it is known to provide an intermediate plate for dividing the dispersion liquid into two sides and for forming a magnetic display (col. 6, lines 8-22). Therefore it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the device of Sakamaki et al. with the intermediate plate of Murata et al. for the purpose of dividing the dispersion liquid into two sides and for forming a magnetic display (col. 6, lines 8-22).

Regarding claim 8, Sakamaki et al. discloses, in figures 3A and 3B, an image display medium (12), further comprising: a plurality of first cells (124) formed between the plates (121 and 122), wherein the dispersion fluid (DL) containing the colored particles (BP and WP) is enclosed in the cells (124) in predetermined amounts (section 0218) except it does not show an intermediate plate Murata et al. shows that it is known to provide an intermediate plate for dividing the dispersion liquid into two sides and for forming a magnetic display (col. 6, lines 8-22). Therefore it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the device of Sakamaki et al. with the intermediate plate of Murata et al. for the purpose of dividing the dispersion liquid into two sides and for forming a magnetic display (col. 6, lines 8-22).

Regarding claim 9, Sakamaki et al. discloses, in figures 3A and 3B, an image display medium (12), further comprising at least one electrode for forming the electric field, which are disposed at least one of the display plate (121) and the rear face plate (122) (section 0187 and 0195) except it does not show an intermediate plate Murata et al. shows that it is known to provide an intermediate plate for dividing the dispersion liquid into two sides and for forming a magnetic display (col. 6, lines 8-22). Therefore it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the device of Sakamaki et

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al. with the intermediate plate of Murata et al. for the purpose of dividing the dispersion liquid into two sides and for forming a magnetic display (col. 6, lines 8-22).

Regarding claim 13, Sakamaki et al. discloses, in figures 3A and 3B, an image display device (12) comprising: (a) an image display medium including: a display plate (121) including light transmissivity (section 0217); a rear face plate (122) which is disposed to oppose the display plate (121) (section 0217), a substantially transparent dispersion fluid (DL) which is disposed between the plates (121 and 122), and at least two kinds of colored particles (BP and WP), which are contained in the dispersion fluid (DL), can move in accordance with an electric field formed between the plates (121 and 122) (section 0218), and include different electrostatic characteristics and optical characteristics from one another (sections 0163, 0185, and 0281); and a plurality of electrodes for forming the electric field, which are disposed at least one of the display plate (121) and the rear face plate (122) (section 0187 and 0195), and (b) a voltage application apparatus which applies voltages to the electrodes in accordance with image information (section 0180) except that it does not show a colored rear plate. Murata et al. shows that it is known to provide a colored rear plate for a high contrast between the substrate and magnetic particles and a sharp display (col. 4, lines 49-57). Therefore it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the device of Sakamaki et al. with the colored rear plate of Murata et al. for the purpose of providing a high contrast between the substrate and magnetic particles and a sharp display (col. 4, lines 49-57).

Regarding claim 14, Sakamaki et al. discloses, in figures 3A and 3B, an image display device (12) comprising: (a) an image display medium including: a display plate (121) including

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light transmissivity (section 0217); a rear face plate (122) which is disposed to oppose the display plate (121) (section 0217), a substantially transparent dispersion fluid (DL) which is disposed between the plates (121 and 122), and at least two kinds of colored particles (BP and WP), which are contained in the dispersion fluid (DL), can move in accordance with an electric field formed between the plates (121 and 122) (section 0218), and include different electrostatic characteristics and optical characteristics from one another (sections 0163, 0185, and 0281); and a plurality of electrodes for forming the electric field, which are disposed at least one of the display plate (121) and the rear face plate (122) (section 0187 and 0195), and (b) a voltage application apparatus which applies voltages to the electrodes in accordance with image information (section 0180) except that it does not show a colored rear plate. Murata et al. shows that it is known to provide a colored rear plate for a high contrast between the substrate and magnetic particles and a sharp display (col. 4, lines 49-57). Therefore it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the device of Sakamaki et al. with the colored rear plate of Murata et al. for the purpose of providing a high contrast between the substrate and magnetic particles and a sharp display (col. 4, lines 49-57).

Regarding claim 15, Sakamaki et al. discloses, in figures 3A and 3B, an image display method for an image display medium (12), which image display medium includes: a display plate (121) including light transmissivity (section 0217); a rear face plate (122) which is disposed to oppose the display plate (121) (section 0217), a substantially transparent dispersion fluid (DL) which is disposed between the plates (121 and 122), and at least two kinds of colored particles (BP and WP), which are contained in the dispersion fluid (DL), can move in accordance with an

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electric field formed between the plates (121 and 122) (section 0218), and include different electrostatic characteristics and optical characteristics from one another (sections 0163, 0185, and 0281), the image display method comprising the steps of: of the colored particles, adhering selected particles all across at least one of the display plate and the rear face plate, and clustering the other colored particles at a location at which the other colored particles substantially do not hinder image display; and clustering all of the colored particles at locations at which the colored particles substantially do not hinder image display (sections 0069 and 0070) except that it does not show a colored rear plate. Murata et al. shows that it is known to provide a colored rear plate for a high contrast between the substrate and magnetic particles and a sharp display (col. 4, lines 49-57). Therefore it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the device of Sakamaki et al. with the colored rear plate of Murata et al. for the purpose of providing a high contrast between the substrate and magnetic particles and a sharp display (col. 4, lines 49-57).

Regarding claim 16, Sakamaki et al. discloses, in figures 3A and 3B, an image display method for an image display medium (12), which image display medium includes: a display plate (121) including light transmissivity (section 0217); a rear face plate (122) which is disposed to oppose the display plate (121) (section 0217), at least two kinds of colored particles (BP and WP), which are contained in the dispersion fluid (DL), can move in accordance with an electric field formed between the plates (121 and 122) (section 0218), and include different electrostatic characteristics and optical characteristics from one another (sections 0163, 0185, and 0281); a plurality of cells (124) formed between the plates (121 and 122), a dispersion fluid (DL) containing the colored particles (BP and WP) is enclosed in the cells (124) in predetermined

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amounts (section 0218); and a plurality of electrodes for forming the electric field, which are disposed at least one of the display plate (121) and the rear face plate (122) (section 0187 and 0195), each of the cells having at least three of the electrodes exclusively allocated thereto, and D.C. voltages being applicable to the at least three electrodes mutually independently (sections 0162 and 0164), the image display method comprising the steps of: of the colored particles, adhering selected particles all across at least one of the display plate and the rear face plate, and clustering the other colored particles at a location at which the other colored particles substantially do not hinder image display; and clustering all of the colored particles at locations at which the colored particles substantially do not hinder image display (sections 0069 and 0070) except that it does not show a colored rear plate. Murata et al. shows that it is known to provide a colored rear plate for a high contrast between the substrate and magnetic particles and a sharp display (col. 4, lines 49-57). Therefore it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the device of Sakamaki et al. with the colored rear plate of Murata et al. for the purpose of providing a high contrast between the substrate and magnetic particles and a sharp display (col. 4, lines 49-57).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Minami (US 20030030884 A1) discloses a display element having partition walls which can be formed without relying on lithographic techniques.

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Kawai (US 20030227665 A1) discloses an electrophoretic dispersion, used for electrophoretic devices, containing electrophoretic particles having a density precisely adjusted by a simple method in order to prevent the settlement of the electrophoretic particles.

Ukigaya (US 20040216836 A1) discloses an electrophoretic display of the type wherein a dispersion liquid for migration and a plurality of charged particles are sandwiched between a first substrate and a second substrate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandi N Thomas whose telephone number is 571-272-2341. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BNT

BNT
November 18, 2004


RICKY MACK
PRIMARY EXAMINER